

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference <b>2003P19154WO</b>	<b>FOR FURTHER ACTION</b>	See item 4 below
International application No. <b>PCT/EP2005/051156</b>	International filing date ( <i>day/month/year</i> ) <b>15 March 2005 (15.03.2005)</b>	Priority date ( <i>day/month/year</i> ) <b>15 March 2004 (15.03.2004)</b>
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant <b>SIEMENS AKTIENGESELLSCHAFT</b>		

1.	This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 <i>bis</i> .1(a).																								
2.	This REPORT consists of a total of 10 sheets, including this cover sheet.  In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.																								
3.	<p>This report contains indications relating to the following items:</p> <table style="width: 100%;"> <tr> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 30%;">Box No. I</td> <td style="width: 60%;">Basis of the report</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application
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<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application																							
4.	The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).																								

<p style="text-align: center;">The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. +41 22 338 82 70</p>	<p>Date of issuance of this report <b>01 November 2006 (01.11.2006)</b></p> <p>Authorized officer  <b>Agnes Wittmann-Regis</b></p> <p>e-mail: pt06@wipo.int</p>
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# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

**TRANSLATION**  
**PCT**

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing **See form PCT/ISA/210**  
(day/month/year)

Applicant's or agent's file reference  
**2003P19154WO**

**FOR FURTHER ACTION**

See paragraph 2 below

International application No. <b>PCT/EP2005/051156</b>	International filing date (day/month/year) <b>15.03.2005</b>	Priority date (day/month/year) <b>15.03.2004</b>
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International Patent Classification (IPC) or both national classification and IPC  
**G05B19/408, G05B23/02**

Applicant  
**SIEMENS AKTIENGESELLSCHAFT**

**1. This opinion contains indications relating to the following items:**

- |                                     |              |  |
|-------------------------------------|--------------|--|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the opinion   |
| <input type="checkbox"/>            | Box No. II   | Priority   |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability   |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention   |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited  |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application   |
| <input checked="" type="checkbox"/> | Box No. VIII | Certain observations on the international application  |

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

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INTERNATIONAL SEARCHING AUTHORITY

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Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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<b>Box No. V</b>	<b>Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</b>		
<b>1. Statement</b>			
Novelty (N)	Claims		YES
	Claims	1-10	NO
Inventive step (IS)	Claims		YES
	Claims	1-10	NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO
<b>2. Citations and explanations:</b>			
<p><b>1.</b> Reference is made to the following documents (D1, D2) :</p> <p style="margin-left: 40px;">D1: DE 44 44 214 A1 (FRANZEN, JOCHEN, DR., 28359 BREMEN, DE) 27 June 1996 (1996-06-27)</p> <p style="margin-left: 40px;">D2: EP-A-1 363 175 (SIEMENS AKTIENGESELLSCHAFT) 19 November 2003 (2003-11-19)</p>			
<p><b>2. INDEPENDENT CLAIM 1</b></p> <p style="margin-left: 40px;">The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 1 is not novel within the meaning of PCT Article 33(2).</p>			
<p><b>2.1.</b> In an industrial system, signals are continuously generated and supplied to an evaluation unit during the industrial process. For system components which are used throughout the world, the problem exists that different physical units are normally used in different countries. The output variables on which the output signals are based must, therefore, be represented in different units.</p>			

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

Therefore, the present application (in contrast to the general object specified on page 2, lines 17 - 19 of the description) is aimed at a rapid and unproblematic conversion of various measured values which, in the context of the representation of the desired target unit, must be converted from any desired initial units independently of the respective units of measurement used (SI base units or non-SI base units).

- 2.2. For this purpose, the same technical problem is addressed in D1 and the same mathematical method is provided as the solution. In addition, the same advantages as mentioned in the application are achieved (*cf. the explanations in the paragraph "object of the invention" from page 3, lines 30 - 35 in D1*).

Specifically, **D1** discloses a method for processing at least one signal, which represents a physical output variable, of an industrial system,

- (M1) in which an output signal which represents a derived physical target variable is determined from the signal (*explicitly disclosed in D1 since the physical output variable is measured in [A], [kg], [m] etc. in D1 and these are considered to be an output signal which represents a physical output variable in an industrial system; see page 2, lines 22 - 36 in conjunction with page 4, lines 44 - 47*),

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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

(M2) the unit of the output variable being  
automatically converted into a target unit of  
the target variable (*cf. page 4, lines 39 -  
42*).

2.3. Furthermore, it is pointed out that, due to the  
broad and unclear wording of claim 1, the teaching  
of **D2** can also be regarded as being prejudicial to  
the novelty of claim 1 (*cf. the explanations in  
paragraphs [0024] - [0026] and figure 1*). In this  
context, it must also be noted that the  
abovementioned features (M1) and (M2) should be  
understood in the widest sense (see also the  
objections re clarity in Box VIII, below).

Consequently, claim 1 is not novel (PCT  
Article 33(2)).

3. DEPENDENT CLAIMS 2 - 10

Claims 2 - 10 do not contain any features which, in  
combination with the features of any claim to which  
they refer, meet the PCT requirements for novelty  
and inventive step.

3.1. Re claims 2 - 4, 6, 7, 9 and 10

The additional features of these claims can  
likewise be found directly or implicitly in D1 (*cf.  
the quotations cited in the search report*) and,  
therefore, likewise cannot be considered to be  
novel (PCT Article 33(2)).

3.2. Re claim 5

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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

Claim 5 proposes a calculation formula intended to break down the units of the output variable into SI base units. This formula can be used to universally convert all physical variables into SI base units. The formula described is only applied implicitly to congruent units of measurement in D1 (see page 3, lines 39 - 44), the break-down into SI base units for the conversion method according to D1 having been explicitly specified by page 2, lines 45 - 48, particularly line 48 - **the zero-th power of the base unit is identical to the numerical value "1"**. It should also be pointed out that, exactly as presented in the description of the application, the mathematical method from D1 is based on conversion factors which have already been specified.

3.3. Re claim 8

Claim 8 describes other aspects of the processing method, namely the formula is automatically subjected to a plausibility check. This additional feature is likewise demonstrated in D1 since the system of measurement is congruent with the system of the physical-technical dimensions (see in D1: page 3, lines 39 - 44 and claim 1). The consequence of this is that conversion into a non-associated target unit (for example the impermissible conversion from Kelvin into ampere) is impossible.

Therefore, the subject matter of claims 2 - 10 is not novel (PCT Article 33(2)).

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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

4. The application relates to a method for processing at least one signal, which represents a physical output variable, of an industrial system. It is therefore industrially applicable.



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Box No. VIII      Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1.    The application does not meet the requirements of PCT Article 6 because claim 1 is not clear.

- 1.1. The broad wording of claim 1 contains functional details but does not mention the features which are necessary in order to achieve said result.

From said wording, it is unclear how "*the derived physical target variable*" is determined.

Furthermore, the step of "*automatically converting ...*" appears to be an attempt to specify the invention in terms of the result to be achieved. Thus, however, only the object to be achieved is specified without disclosing the technical features necessary in order to achieve this result.

- 1.2. The formulation "...the unit of the output variable is automatically converted into a target unit of the target variable" does not sufficiently clearly reveal that a particular variable (output variable, target variable) **is composed of a value and of a unit** (as specified in the object part of the description, *cf. page 2, lines 24 - 28*) and actually **the calculated value is displayed together with the target unit** (*see page 5, line 36 - page 6, line 1*).

It follows from this that said formulation is unclear.

2.    Independent claim 1 has not been drafted in the two-

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Box No. VIII Certain observations on the international application

part form defined by PCT Rule 6.3(b).